

July 2015

Logan County

Estimated Economic Impact of Agriculture, Food, and Food Processing Sectors

A total of 10 agriculture, food, and food processing sectors were analyzed to determine their overall contribution to the Logan County economy.¹ These 10 sectors have a total direct output of approximately \$94 million and support 326.4 jobs in Logan County. Running the model for all 10 sectors simultaneously produces the following results:

Agriculture Contribution in Logan County

Impact Type ²	Employment	% of Total Employment	Total Value Added ³	% of Gross Regional Product ⁴	Output ⁵	% of Gross Regional Product
Direct Effect	326.4	16%	\$17,714,932	17%	\$94,227,564	88%
Indirect Effect	107.4	5%	\$7,144,044	7%	\$13,631,593	13%
Induced Effect	34.8	2%	\$2,598,182	2%	\$4,437,682	4%
Total Effect	468.6	23%	\$27,457,159	26%	\$112,296,839	105%

As shown in the above table, agriculture, food, and food processing supports 468.6 jobs, or 23% of the entire workforce in the county. These industries provide a total economic contribution of approximately \$112 million, roughly 105% of Gross Region Product (GRP). As noted below in the calculation of Gross Regional Product, imports and institutional sales are subtracted. Therefore, counties that import a relatively large amount of goods and services will have a reduced GRP which may lead to agricultural output being greater than GRP.

Another metric used to calculate the importance of sectors in an economy is their value added as a percentage of GRP. Total value added by the 10 agriculture, food, and food processing sectors is approximately \$27 million, or 26% of the GRP. This indicates that personal income, business income, and taxes generated by these sectors account for 26% of the total economy.

The following tables document the overall summary numbers of the model, top industries affected by employment and output, and a listing of all industries that were analyzed.

¹ Article on building a contribution analysis in IMPLAN that avoids double counting:
https://implan.com/index.php?option=com_content&view=category&id=19

² Direct, indirect, and induced effects sum together to estimate the total economic contribution in the state. **Direct effects** capture the contribution from agricultural and food products. **Indirect effects** capture the economic benefit from farms and agricultural businesses purchasing inputs from supporting industries within the state. **Induced effects** capture the benefits created when employees of farms, agricultural businesses, and the supporting industries spend their wages on goods and services within the state.

³ Value Added = Labor Income + Indirect Business Taxes + Other Property Type Income

⁴ GRP = Final Demand of Households + Governments Expenditures + Capital + Exports - Imports - Institutional Sales

⁵ Output = Intermediate Inputs + Value Added

In the top ten by employment, Grain farming is the top employer in the agriculture industry with 121.3 employees. This table also shows the amount of jobs that are created by the agriculture industry in Logan County.

Top 10 Industries Affected by Employment

Sector Description:	Total Employment	Total Output
Grain farming	121.3	\$54,633,693
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	73.1	\$24,351,067
Commercial hunting and trapping.....	54.1	\$2,522,581
Wholesale trade.....	30.0	\$6,081,931
All other crop farming.....	28.0	\$4,565,939
Support activities for agriculture and forestry	24.0	\$1,327,697
Veterinary services	23.7	\$1,289,481
Animal production, except cattle and poultry and eggs.....	15.3	\$1,987,588
Securities and commodity contracts intermediation and brokerage	13.4	\$626,547
Monetary authorities and depository credit intermediation	13.3	\$2,054,382

The Grain farming industry directly contributes approximately \$55 million to Logan County's economy. This table also shows how much revenue is generated in other industries by having a strong agriculture industry.

Top 10 Industries Affected by Output

Sector Description:	Total Employment	Total Output
Grain farming	121.3	\$54,633,693
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	73.1	\$24,351,067
Wholesale trade.....	30.0	\$6,081,931
All other crop farming.....	28.0	\$4,565,939
Animal, except poultry, slaughtering.....	4.9	\$2,866,131
Commercial hunting and trapping.....	54.1	\$2,522,581
Monetary authorities and depository credit intermediation	13.3	\$2,054,382
Animal production, except cattle and poultry and eggs.....	15.3	\$1,987,588
Support activities for agriculture and forestry	24.0	\$1,327,697
Veterinary services	23.7	\$1,289,481

Below is a summary of all agriculture data with employment levels and output level. These values can tell how many jobs are represented by each agriculture sector and the output they contributed to Logan County's economy.

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All 105 counties in Kansas have IMPLAN models with an agriculture contribution summary. These values do not factor in the retail environment of food sales. Food retail is important, but in order to provide the most accurate picture of what production agricultural and processing contributes to Kansas, the retail sector was omitted.